



NTSB National Transportation Safety Board

Aviation Industry Collaboration Success Story

Presentation to: National
Association of Corporate Directors,
Capital Area Chapter

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NTSB 101

- Independent federal agency, investigate transportation mishaps, all modes
- Determine probable cause(s) and make recommendations to prevent recurrences
- Primary product: Safety recommendations
 - Favorable response > 80%
- ***SINGLE FOCUS IS SAFETY***
- Independence
 - Political: Findings and recommendations based upon evidence rather than politics
 - Functional: No “dog in the fight”



Complex Systems

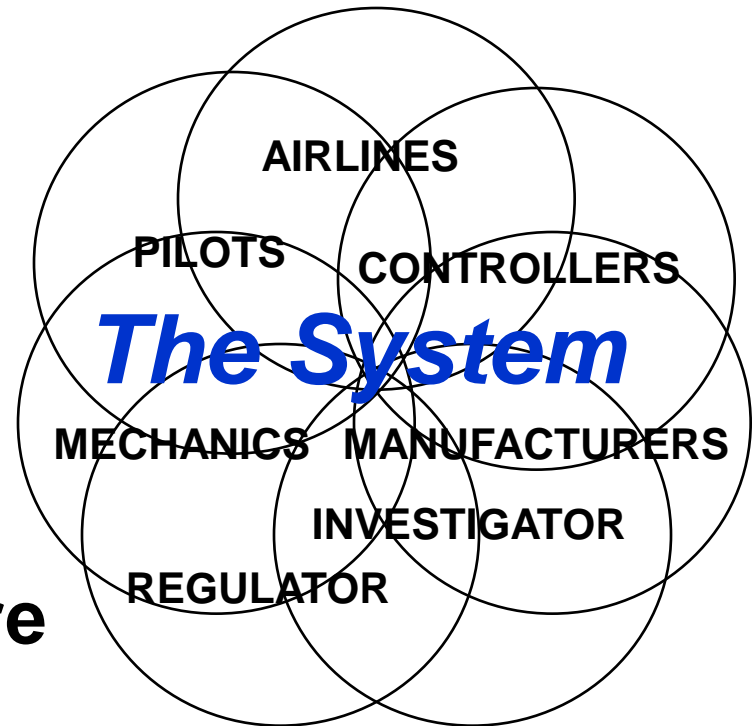
– More System

Interdependencies

- Large, complex, interactive system
- Often tightly coupled
- Hi-tech components
- Continuous innovation
- Ongoing evolution

– Safety Issues Are More Likely to Involve

Interactions Between Parts of the System



Addressing Complexity: System Think

***Understanding how a
change in one subsystem
of a complex system may
affect other subsystems
within that system***



“System Think” via Collaboration

Bringing all parts of a complex system together to collaboratively

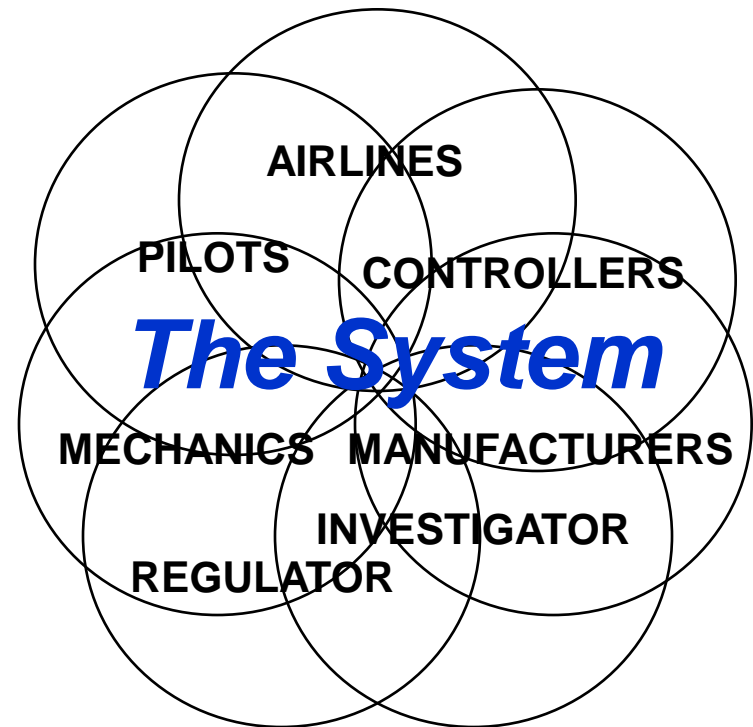
- **Identify potential issues**
- ***PRIORITIZE* the issues**
- **Develop solutions for the prioritized issues**
- **Evaluate whether the solutions are**
 - **Accomplishing the desired result, and**
 - **Not creating unintended consequences**



Commercial Aviation Safety Team (CAST)

Engage All Participants In Identifying Problems and Developing and Evaluating Remedies

- Airlines
- Manufacturers
- Air Traffic Organizations
- Labor
 - *Pilots*
 - *Mechanics*
 - *Air traffic controllers*
- Regulator(s)



Aviation Success Story

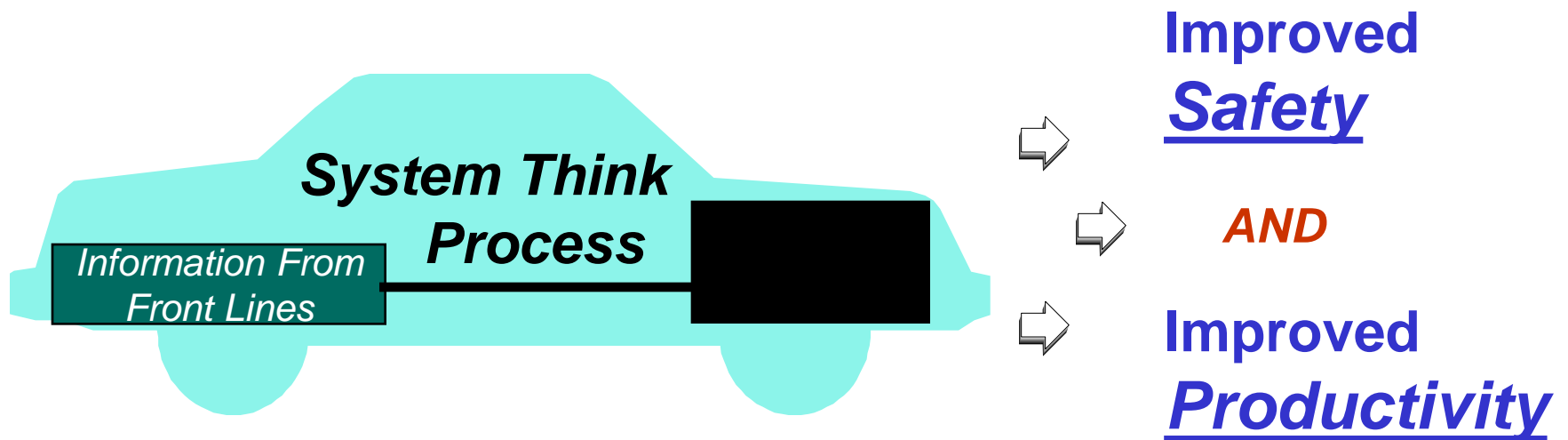
65% Decrease in Fatal Accident Rate,
1997 - 2007

largely because of
System Think

fueled by
***Proactive Safety
Information Programs***

P.S. The process also minimized ***unintended consequences!***

Process Plus Fuel Produced An Amazing Win-Win



Moral of the Story

Anyone who is
involved in the *problem*
should be involved in
developing the *solution*



Major Paradigm Shift

- **Old: The regulator identifies a problem, develops solutions**
 - Industry skeptical of regulator's understanding of the problem
 - Industry fights regulator's solution and/or implements it begrudgingly

- **New: Collaborative “System Think”**
 - Industry involved in identifying problem
 - Industry “buy-in” re interventions because everyone had input, everyone's interests considered
 - Prompt and willing implementation
 - Interventions evaluated . . . *and tweaked as needed*
 - Solutions probably more effective and efficient
 - Unintended consequences much less likely

Challenges of Collaboration

- Human nature: “I’m doing great . . . *the problem is everyone else*”
- Participants may have competing interests, e.g.,
 - Labor/management issues
 - May be potential co-defendants
- Regulator probably not welcome
- Not a democracy
 - Regulator must regulate
- Requires all to be willing, *in their enlightened self-interest*, to leave their “comfort zone” and think of the System

Collaboration at Many Levels

- Process Safety**
 - Entire Industry**
 - Company (Some or All)**
 - Type of Activity**
 - Facility**
 - Team**
- Workplace Safety**

Other Lessons Learned

- Collaboration objective is *reducing risk*
 - Compliance, while important, does not necessarily reduce risk
 - Aviation collaborative process success generated *no new regulations*
- The term “outlier” is misleading
 - Suggests no need for concern, “one-off” that won’t happen again
 - Most mishaps result from series of several breached defenses
 - Product of several small numbers – breached defenses – is very small number
 - Mishap highlights need to address each breached defense

Thank You!!!



Questions?